Policy, Standards & Research Section
Development Division

Washington State Department of Transportation

What is Practical Design?

A fully implemented Practical Design strategy applies to all aspects of transportation system development, from system planning through all phases of project development. The Design Office has developed a working definition to guide their work on Practical Design:

Practical Design is a strategy that emphasizes** return on investment, **encouraging** flexibility, innovation, **and** multimodal **solutions by increasing the focus on project** purpose and need **throughout** all phases **of project development.

Two concepts underlying the strategy are: (1) focusing of project purpose and need, and (2) seeking the most reasonable return on investment to meet that purpose and need. Building upon these foundations, Practical Design directs planners and engineers to examine whether and how project elements, criteria, and controls truly address what motivates the project. As a core objective in the implementation of Practical Design, the Design Office is committed to developing tools and guidance to analyze, document, and support decisions associated with a more flexible approach to design.

Why is Practical Design Highlighted Now?

There are several reasons why Practical Design reform is happening now:

- ***Our 50 year effort to reduce risks associated with auto travel through development and application of nominal standards has been extremely successful***
- ***Our success in that effort provides the foundation to address new challenges (financial, technological, social)***
- ***The new challenges we face are more interrelated and complex***
- ***We need to acknowledge our new constraints and bring new tools to bear on the problem***
- ***We need to provide for sustainable transportation options, in many cases integrating and retrofitting existing infrastructure to support modal integration***

Is Practical Design New?

Practical Design is not new, and has been successfully implemented at both the project and program levels at WSDOT in a variety of ways for many years. Practical Design happens every time professional judgment and experience is used to question** why, **data is used to determine** what, **context and innovation is leveraged to refine** where **and** how, **and prioritization considers** when. **Practical Design is in practice all the time at WSDOT, but reform underway will create a more consistent approach to evaluating trade-offs through all phases of program and project development.

How can Practical Design be used today?

Projects underway can use Practical Design to:

- ***Evaluate standards for criteria and control by validating those project elements in terms of their contribution to the project's purpose and need***
- ***Weigh the trade-offs associated with the use of nominal standards with respect to the identified deficiencies***
- ***Seek a best fit design through a more precise understanding of the project context***
- ***Utilize tools to research and explore options for solutions that provide for better modal integration based on specific contextual issues***
- ***Review project phasing possibilities that can target near-term priorities***
- ***Look for ways to improve communication that informs design, across disciplines and community stakeholders***

We understand that additional documentation may be necessary to accomplish Practical Design, specifically in the interim while alterations to policy and guidance related to Practical Design are explored.

What Upcoming Tools will be Available?

The following additional tools and policy are actively in development to begin supporting Practical Design objectives:

- ***PD/VE Workshop – A workshop that will employ VE techniques to evaluate practical design issues and opportunities.***
- ***Design Speed Policy Update – initial phase to eliminate current guidance that identifies design speeds in excess of posted speeds as being "desirable" (primarily affecting modified design and full design in urban managed access areas).***
- ***Bus Stop Policy Update – reconsidering how treatments at bus stops are evaluated, replacing the requirement for pullout construction with a more flexible approach to analyzing provider, agency, and public needs.***
- ***Main Streets Design – This Design Manual Supplement provides a preview into Design Office direction on de-***

velopment of policy providing design flexibility based on context and modally integrated objectives. This supplement focuses on lower speed, lower volume facilities covering specific context environments that many will recognize as "traditional main streets."

What is Design Policy Exploring in 2014?

The Design Office is currently reviewing the basis and methods for determining and applying standard design controls and criteria, with a focus on practices for applying flexibility. The following policy areas are a part of this review, and Design Manual users can expect to see incremental changes on these topics throughout 2014.

Design Speed Selection – *The Design Office is evaluating the design speed selection process and reviewing research on the relationship between design, posted, and operating speeds. This includes the relationship between context and the interaction between different travel modes, while considering the effect of design speed at the community, corridor, and network level. The objective is to provide specific tools for determining project a design speed that is appropriate for supporting different land use and transportation related context environments. We expect that a new approach will provide options and opportunities for developing more effective project partnerships, reducing project footprint, as well as the associated environmental, right of way, and financially related impacts. A target speed approach will also provide more flexibility that better supports modal integration within appropriate contexts.*

Design Vehicle Selection – *The Design Office is considering new methods for determining the appropriate design vehicle, with greater consideration related to user frequency across all modes. The goal is to lower costs through elimination of underutilized facilities that may reduce project footprint, and the associated environmental, right of way, and financially related impacts. We will consider methods for balancing trade-offs when deciding what design vehicle control is necessary at the corridor and segment levels.*

Return on Investment— *The Design Office is researching the origin and evolution of the standard 20-year design horizon, and questioning its validity. Our goal is to consider options for this approach to design development, including performance metrics and categories that may provide alternative valuation of project alternatives that provide even more useful information about project return on investment.*

Context and Modally Integrated Design Chapters – *The Design Office is evaluating new methods to integrate project, corridor, and system context into the design process. Currently, certain criteria and controls are selected based on their relationship between functional class, anticipated traffic volume and access classification. However, this method constrains options and provides nominal solutions to complex issues and trade-offs faced on modern roadways. The goal of this effort is to develop classification system based on project context, describing a broad range of project environments that better represent all contexts and needs of the State Highway System. Road typologies that match these contexts, such as different types of boulevards and avenue treatments described in the NACTO Urban Street Design Guide and the ITE Guide—Designing Walkable Urban Thoroughfares: A Context Sensitive Approach, will be evaluated for safety and operational performance across all modes. These typologies could then be considered when designing facilities in each context class depending on plans for the corridor and the specific location needs that support the surrounding environment. This new approach would ultimately provide opportunities to introduce design flexibility by prioritizing criteria for the various contexts and typologies identified, better support modally integrated designs, and provide the tools needed to document the trade-offs inherent in the design decisions.*

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